

### **REMARKS**

This Amendment is submitted in reply to the First Office Action dated July 27, 2005. Applicants respectfully request reconsideration and further examination of the patent application under 37 C.F.R. § 1.111.

#### **Summary of the Examiner's Objections and Rejections**

Claims 16 and 25 were objected to because of the following informalities: typographical error Claim 16, depends on itself. In Claim 25, it appears that "collimating optic" was repeated.

Claims 1-2, 18-19 and 20-22 were rejected under 35 U.S.C. 102(b) as being anticipated by Hoyt (US Pubs 2001/0046050).

Claims 1-2, 9, 18-19, 20-22 and 29 were rejected under 35 U.S.C. 102(e) as being anticipated by Oldham (US Pubs 2003/0160957).

Claims 5-6 and 25-26 were rejected under 35 U.S.C. 103(a) as being unpatentable over Oldham (US Pubs 2003/0160957) in view of Sato (US Pubs 2003/0128437).

Claims 10 and 30 were rejected under 35 U.S.C. 103(a) as being unpatentable over Oldham (US Pubs 2003/0160957) in view of Sampas (US Pubs 2003/0218746).

Claim 11-17 and 31-37 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### **Summary of Amendment**

Applicants have cancelled Claims 3-8 and 23-28 (without prejudice), amended Claims 1, 11, 13, 15-17, 21, 31, 33, 35 and 37 and added Claims 38-57 to more particularly define the present invention.

#### **Remarks regarding objected Claims 16 and 25**

Claims 16 and 25 were objected to because of the following informalities: typographical error Claim 16, depends on itself. In Claim 25, it appears that "collimating optic" was repeated. Applicants have amended Claim 16 to correct this informality. And, the Applicants have cancelled Claim 25. As such, Applicants respectfully request removal of these objections.

#### **Remarks regarding objected Claims 11-17 and 31-37**

Claim 11-17 and 31-37 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Applicants have amended each of the objected to dependent Claims 11, 13, 15 and 17 to include the limitations from original independent Claim 1. As such, Applicants respectfully request allowance of amended independent Claims 11, 13, 15 and 17 and their associated dependent Claims 12, 14, 16 and 38-47.

Applicants have amended each of the objected to dependent Claims 31, 33, 35 and 37 to include the limitations from original independent Claim 21. As such, Applicants respectfully request allowance of amended independent Claims 31, 33, 35 and 37 and their associated dependent Claims 32, 34, 36 and 48-57.

#### Remarks regarding § 103(a) rejections

Applicants respectfully submit that amended independent Claims 1 and 21 are patentable over Oldham and/or Sato. The claimed invention as recited in amended independent Claims 1 and 21 follows:

1. An optical interrogation system comprising:  
a light source for outputting a light beam;  
a diffractive optic for receiving the light beam and outputting an array of light beams; and  
a collimating optic for receiving and conditioning the array of light beams and outputting the conditioned array of light beams which have desired optical properties towards a specimen array;  
wherein said collimating optic is a fiber array that re-conditions the optical character of each light beam emitted from said diffractive optic; and  
wherein said fiber array includes a plurality of fibers each of which has one end arranged on a circumference of a sphere and another end connected to a grid (emphasis on main distinguishing limitation).

21. A method for interrogating one or more specimens in a specimen array, said method comprising the steps of:  
using a light source to generate a light beam;  
using a diffractive optic to receive the light beam and output an array of light beams; and  
using a collimating optic to receive and condition the array of light beams and then output the conditioned array of light beams which have desired optical properties towards a specimen array;  
wherein said collimating optic is a fiber array that re-conditions the optical character of each light beam emitted from said diffractive optic; and  
wherein said fiber array includes a plurality of fibers each of which has one end arranged on a circumference of a sphere and another end connected to a grid (emphasis on the distinguishing limitations).

The amended independent Claims 1 and 21 have been respectively amended to include the limitations of Claims 5-6 (now cancelled) and Claims 25-26 (now cancelled). And, Claims 6 and 26 were rejected by the Examiner who stated the following:

"In regards to claims 6 and 26, the fiber array includes a plurality of fibers (25-28) which has one end connected to a grid (30). It is not disclosed that the other end is arranged in a sphere, however, this is merely a design choice, and furthermore, since the fiber bundle is used to collect light from the light source, it would be obvious to one of ordinary skill in the art to bundle the fibers as close together as possible, such as in a sphere, in order to collect most of the light coming from the light source".

Applicants respectfully traverse this rejection because Oldham and/or Sato do not teach or suggest the limitation "wherein said fiber array includes a plurality of fibers each of which has one end arranged on a circumference of a sphere and another end connected to a grid (emphasis added)." The Examiner's conclusion that one end of the fiber is arranged in a sphere is merely a design choice is misplaced. Because, this particular fiber array has a specific structure that is specifically designed to interface with and receive light beams emitted from a diffractive optic as shown in FIG. 3. In addition, the Examiner's conclusion that "it would be obvious to one of ordinary skill in the art to bundle the fibers as close together as possible, such as in a sphere, in order to collect most of the light coming from the light source" is based on hindsight. There is no suggestion in Oldham and/or Sato that would lead one to the Examiner's conclusion except for the improper use of hindsight. In fact, it appears that the Examiner effectively used "Official Notice" to reject these claims. As such, Applicants respectfully request that pursuant to Section 2144.03 of the MPEP that the Examiner cite a reference or references in support of such a rejection if it is maintained in view of the present Amendment.

#### Conclusion

Applicants respectfully submit that all of the stated grounds of objections and rejections have been properly traversed, accommodated, or rendered moot. Accordingly, Applicants respectfully request reconsideration of all outstanding objection and rejections and allowance of pending Claims 1-2, 9-22 and 29-57.

Enclosed is a USPTO Credit Card Payment Form filled out for \$ 2600.00 to cover the fee for eight additional independent Claims 11, 13, 15, 17, 31, 33, 35 and 37 and twenty additional dependent Claims 38-57. If this is incorrect, the Commissioner is authorized to charge any fees which may be required for this paper to Deposit Account No. 50-1481.

Respectfully submitted,



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